

Corrosion Fatigue Cracking in Friction Stir Welded 2519 Aluminum



Progress

Testing indicates FSW weld is at least as resistant to corrosion fatigue cracking as GMA welds.

Objective

To characterize the susceptibility of friction stir welded 2519 Aluminum to corrosion fatigue cracking in aqueous sodium chloride solution.

Approach

- Environmental exposure and monitoring of samples (including base material and arc welds) at low and intermediate stress ratios
- Microscopic analysis of failure modes

Payoff

Fundamental knowledge available to AAAV program on the corrosion consequences of using friction stir welding for the aluminum hull.

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